Jordan Valley Authority

Computer Business Mapping: Loan Information Computer System

Financial Accounting System Program

July 2000





Computer Business Mapping Reports:

- Budgeting and Accounting Systems
- Water Management Information System
- Inventory and Workshop Systems
- Land Information System
- √ Loan Information System
- Personnel and Payroll Systems



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ACRONYMS

CBJ Central Bank of Jordan

GL General Ledger

H/W Hardware

MOF Ministry of Finance

RDBMS Relational Database Management System

SMS Erno and Shair Management Systems

S/W Software

VARCHAR2 Variable Character (database type)

WIP Work In Progress

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CHAPTER 1 INTRODUCTION

Scope

The purpose of this report is to document from a software perspective our understanding of the current computer system used for financial accounting at the JVA. A detailed description of accounting and of any related terminology and/or procedures is in the business process mapping documents (i.e., Revenue, Expenditures, Budget and Financial Accounting, Inventory and Fixed Assets, Workshop, and Payroll).

Methodology

The information in this report was gathered from the following sources:

- Interviews with end-users (i.e. employees currently using the applications);
- Documentation prepared by Erno and Shair Management Systems (SMS);
- Discussions with the information technology (IT) staff and with members of the oversight committee; and
- A study of the software in place from a functional and structural perspective.

The FAS program team understands and appreciates that the IT sector is very dynamic, so a cut-off date of 31 March was set for collecting information on the systems. Any changes made after that date will not be reflected in this document.

Background

Many JVA projects are financed by loans from foreign donors. Examples include building dams, maintaining dams and canals, making roads, maintaining irrigation projects, investment projects, and tourism projects. Projects can be divided into subprojects and subcontracts and can be funded from various sources, including loan amounts, loan currency, and agency contributions. The loans are long-term and will be paid back with interest.

The loan and project information system is designed to maintain, i.e., insert, update, modify and delete, information on loans, on projects and contracts related to loans, and on invoices and withdrawals of loan fund. Therefore the computer system is used in the "Project Section" of the financial department by one user. However there are no reports that can be printed out from the menu. Whenever a report is needed the IT staff prepares it and prints it out.

CHAPTER 2 LOAN INFORMATION SYSTEM MAIN FUNCTIONS

As mentioned previously, invoices and withdrawals for each loan are maintained in this system in order to calculate amounts available. In fact, the system maintains all of the following:

- Code programs
- Loan information
- Projects and related information.
- Contract information
- Invoices, withdrawals and payments.

1. Code Programs

1.1 Agency Data Entry Form



In this form agency information that finances loans can be maintained and entered. Each agency has a unique code in the **AGENCY_CODE_TABLE**.

Name	Data Type	Null
AGENCY_CODE	NUMBER(2)	
AGENCY_NAME	VARCHAR2(43)	

1.2 Currency Data Entry Form

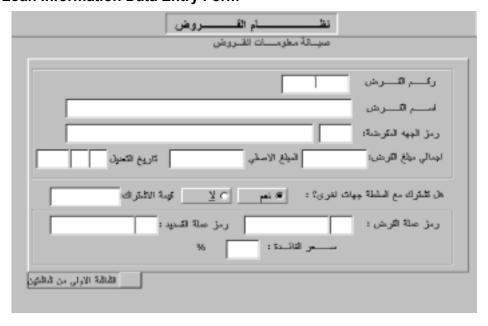


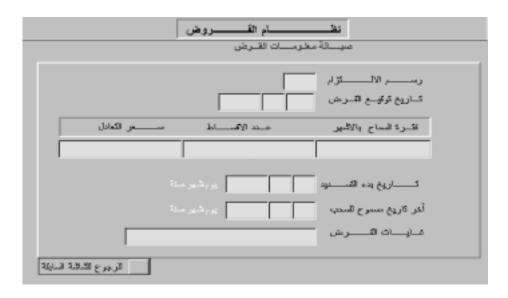
This form allows currency information to be entered and stored. The currencies of JVA loans have unique codes in the **CURRENCY_CODE_TABLE**.

Name	Data Type	Null
CURRENCY_CODE	NUMBER(2)	
CURRENCY NAME	VARCHAR2(20)	

2. Loan Information

2.1 Loan Information Data Entry Form





Information on loans and financing agencies is entered from this form and date stored in the **LOAN_MASTER** table as follows:

Name	Data Type	Null
LOAN_CODE	VARCHAR2(10)	
LOAN_NAME	VARCHAR2(60)	
LOAN_AGENCY_CODE	NUMBER(2)	
LOAN_AMOUNT	NUMBER(12)	
LOAN_AMOUNT_BASE	NUMBER(12)	
LOAN_BASE_D	NUMBER(2)	
LOAN_BASE_M	NUMBER(2)	
LOAN_BASE_Y	NUMBER(4)	
LOAN_OTHERS	NUMBER(1)	
LOAN_OTHERS_AMOUNT	NUMBER(9)	
LOAN_CURR_CODE	NUMBER(2)	
LOAN_CONVET_RATE	NUMBER(8,4)	
LOAN_REPAYMENT_CURR	NUMBER(2)	
LOAN_INTEREST_RATE	NUMBER(5,3)	
LOAN_COMMITMENT_FEE	NUMBER(5,3)	
LOAN_LAST_DRAW_ALLOWED_D	NUMBER(2)	
LOAN_LAST_DRAW_ALLOWED_M	NUMBER(2)	
LOAN_LAST_DRAW_ALLOWED_Y	NUMBER(4)	
LOAN_LAST_WITHDRAW_D	NUMBER(2)	
LOAN_LAST_WITHDRAW_M	NUMBER(2)	
LOAN_LAST_WITHDRAW_Y	NUMBER(4)	
LOAN_SIGN_D	NUMBER(2)	
LOAN_SIGN_M	NUMBER(2)	
LOAN_SIGN_Y	NUMBER(4)	
LOAN_GRACE_PERIOD	NUMBER(3)	
LOAN_NO_INSTALLMENTS	NUMBER(3)	
LOAN_TOT_PAYMENTS	NUMBER(15,3)	
LOAN_TOT_REPAYMENTS	NUMBER(12,3)	
LOAN_TOT_PAID_INT	NUMBER(12,3)	

Name	Data Type	Null
LOAN_FIRST_PAYMENT_D	NUMBER(2)	
LOAN_FIRST_PAYMENT_M	NUMBER(2)	
LOAN_FIRST_PAYMENT_Y	NUMBER(4)	
LOAN_AIM	VARCHAR2(40)	

2.2 Goods and Loan Services Data Entry Form



Service terms and conditions information is entered from this form and data is stored in the **GOODS_SERVICES** table as follows:

Name	Data Type	Null
LOAN_CODE	VARCHAR2(10)	
LOAN_CURR_CODE	NUMBER(2)	
CONTRACT_NAME	VARCHAR2(40)	
RESERVATION	NUMBER(13,3)	

3. Projects and Related Loan Information

3.1 Project Information Data Entry Form



This master / detail data entry form is composed of BASIC_CONTRACT and BASIC_AGENCY tables. The master table **BASIC_CONTRACT** holds information about JVA projects financed by loans as follows:

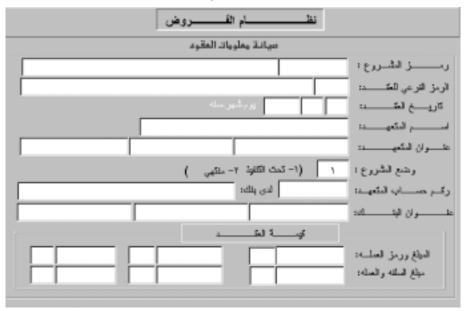
Name	Data Type	Null
BAS_CONTRACT_CODE	VARCHAR2(15)	
BAS_CONTRACT_NAME	VARCHAR2(40)	
BAS_CONTRACT_D	NUMBER(2)	
BAS_CONTRACT_M	NUMBER(2)	
BAS_CONTRACT_Y	NUMBER(4)	
BAS_CONTRACT_AM1	NUMBER(12,3)	
BAS_CURR_CODE1	NUMBER(2)	
BAS_CONTRACT_AM2	NUMBER(12,3)	
BAS_CURR_CODE2	NUMBER(2)	
BAS_CONTRACT_AM3	NUMBER(12,3)	
BAS_CURR_CODE3	NUMBER(2)	, and the second

Financial support for the project can be from more than one loan. This information is stored in the **BASIC_AGENCY** table in the following manner:

Name	Data Type	Null
FIN_CONTRACT_CODE	VARCHAR2(15)	
FIN_LOAN_CODE	VARCHAR2(10)	
FIN_AMOUNT	NUMBER(12,3)	
FIN_CURR_CODE	NUMBER(2)	
FIN CONTRIBUTION	NUMBER(5,2)	

4. Contract Information

4.1 Contract Information Data Entry Form



This is a master / detail data entry form composed of CONTRACTS and FINANCE_AGENCIES tables that allows the user to enter information about contracts and subcontracts for a project and to define the executive company (person), his address, the contract amount and the currency of the loan. The **CONTRACTS** table is as follows:

Name	Data Type	Null
CONTRACT_CODE	VARCHAR2(15)	
CONTRACT_SUB_CODE	NUMBER(3)	
CONTRACT_SUB_NAME	VARCHAR2(90)	
CONTRACT_DATE_D	NUMBER(2)	
CONTRACT_DATE_M	NUMBER(2)	
CONTRACT_DATE_Y	NUMBER(4)	
CONTRACTOR_NAME	VARCHAR2(90)	
CONTRACTOR_ADDRESS1	VARCHAR2(30)	
CONTRACTOR_ADDRESS2	VARCHAR2(30)	
CONTRACTOR_ADDRESS3	VARCHAR2(30)	
CONTRACT_AMOUNT1	NUMBER(12,3)	
CONTRACT_AMOUNT2	NUMBER(12,3)	
CONTRACT_AMOUNT3	NUMBER(12,3)	
CONTRACT_CURR_CODE1	NUMBER(2)	
CONTRACT_CURR_CODE2	NUMBER(2)	
CONTRACT_CURR_CODE3	NUMBER(2)	
CONTRACTOR_ACCOUNT_NO	VARCHAR2(15)	
CONTRACTOR_BANK_NAME	VARCHAR2(30)	
CONTRACTOR_BANK_ADDRESS1	VARCHAR2(30)	
CONTRACTOR_BANK_ADDRESS2	VARCHAR2(30)	
CONTRACTOR_BANK_ADDRESS3	VARCHAR2(30)	

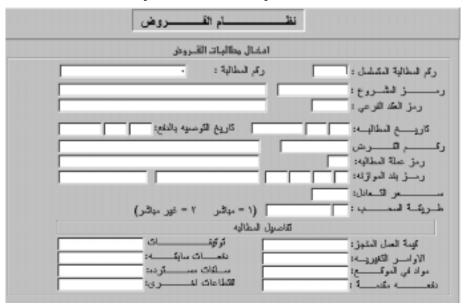
Name	Data Type	Null
CONTRACT_DOWN_PAYMENTS1	NUMBER(12,3)	
CONTRACT_DOWN_PAYMENTS2	NUMBER(12,3)	
CONTRACT_DOWN_PAYMENTS3	NUMBER(12,3)	
CONTRACT_DOWN_PAY_CURR1	NUMBER(2)	
CONTRACT_DOWN_PAY_CURR2	NUMBER(2)	
CONTRACT_DOWN_PAY_CURR3	NUMBER(2)	
CONTRACT_FLAG	NUMBER(1)	

The **FINANCE_AGENCIES** table holds information about loans related to specific projects and subcontracts.

Name	Data Type	Null
FINANCE_LOAN_CODE	VARCHAR2(10)	
FINANCE_CONTRACT_CODE	VARCHAR2(15)	
FINANCE_AMOUNT	NUMBER(12,3)	
FINANCE_CURR_CODE	NUMBER(2)	
FINANCE_CONTRIBUTION	NUMBER(5,2)	
FINANCE_SUBCONTRACT_CODE	NUMBER(2)	

5. Invoices, Withdrawals and Loan Payments

5.1 Invoices For Loan Payments Data Entry Form



When a contractor works on a project, he issues invoices according to contract payment conditions. Invoice information is entered from this form and data is stored in the **INVOICES** table as follows:

Name	Data Type	Null
INVOICE_NO	NUMBER(4)	
INVOICE_CONTRACT_CODE	VARCHAR2(15)	

Name	Data Type	Null
INVOICE_SUB_CODE	NUMBER(2)	
INVOICE_LOAN_CODE	VARCHAR2(10)	
INVOICE_D	NUMBER(2)	
INVOICE_M	NUMBER(2)	
INVOICE_Y	NUMBER(4)	
INVOICE_PAY_D	NUMBER(2)	
INVOICE_PAY_M	NUMBER(2)	
INVOICE_PAY_Y	NUMBER(4)	
INVOICE_CHAPTER_CODE	NUMBER(2)	
INVOICE_CHAPTER_TYPE	VARCHAR2(1)	
INVOICE_PROGRAM_CODE	VARCHAR2(1)	
INVOICE_PROJECT_CODE	NUMBER(2)	
INVOICE_GROUP_CODE	NUMBER(3)	
INVOICE_ITEM_CODE	NUMBER(2)	
INVOICE_AMOUNT	NUMBER(12,3)	
INVOICE_CURR	NUMBER(10,6)	
INVOICE_CONV_RATE	NUMBER(10,6)	
INVOICE_TYPE	NUMBER(1)	
INVOICE_PERFORM_WORK	NUMBER(12,3)	
INVOICE_VARIATION_ORDER	NUMBER(12,3)	
INVOICE_MATERIAL_SITE	NUMBER(12,3)	
INVOICE_ADVANCES	NUMBER(12,3)	
INVOICE_DOWN_PAY_PAID	NUMBER(12,3)	
INVOICE_DEDUCTIONS	NUMBER(12,3)	
INVOICE_CURRIED_PAYMENTS	NUMBER(16,3)	
INVOICE_OTHER_DEDUCTION	NUMBER(12,3)	
INVOICE_STATUS	VARCHAR2(1)	
INVOICE_NO_EXT	VARCHAR2(25)	
INVOICE_JD_AMOUNT	NUMBER(12,3)	
DISTRIB_FLAG	NUMBER(1)	

Construction invoices are cumulative, i.e., each one contains previous charges. Therefore, the most recent invoice reflects the total amount charged to the project to date. When cumulative invoices are entered from this form then the total amount of the invoice is automatically calculated and is stored in the INVOICE_OUT table.

5.2 Query on Invoices Data Form



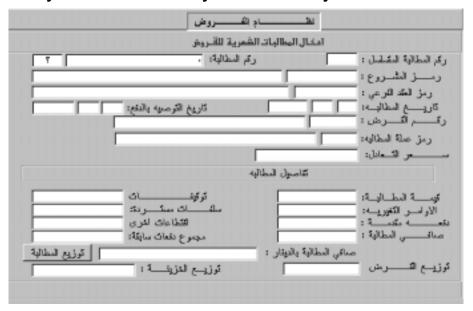
This form retrieves invoices data from the **INVOICE_OUT** table which has the following description:

Name	Data Type	Null
INVOICE1_NO	NUMBER(4)	
INVOICE1_CONTRACT_CODE	VARCHAR2(15)	
INVOICE1_SUB_CODE	NUMBER(2)	
INVOICE1_LOAN_CODE	VARCHAR2(10)	
INVOICE1_D	NUMBER(2)	
INVOICE1_M	NUMBER(2)	
INVOICE1_Y	NUMBER(4)	
INVOICE1_AMOUNT	NUMBER(12,3)	
INVOICE1_CURR	NUMBER(2)	
INVOICE1_PERFORM_WORK	NUMBER(12,3)	
INVOICE1_VARIATION_ORDER	NUMBER(12,3)	
INVOICE1_MATERIAL_SITE	NUMBER(12,3)	
INVOICE1_ADVANCES	NUMBER(12,3)	
INVOICE1_DOWN_PAY_PAID	NUMBER(12,3)	
INVOICE1_DEDUCTIONS	NUMBER(12,3)	
INVOICE1_CURRIED_PAYMENTS	NUMBER(16,3)	
INVOICE1_OTHER_DEDUCTION	NUMBER(12,3)	
INVOICE1_FINANCIAL_PART	NUMBER(12,3)	
INVOICE1_LOAN_PART	NUMBER(12,3)	
INVOICE1_FLAG	VARCHAR2(1)	
INVOICE1_NO_EXT	VARCHAR2(25)	

The form has the option to confirm an invoice. When invoice is confirmed then the **UPDATE_INVOICES** table will be amended. This table reflects the most recent invoice information for the project as follows:

Name	Data Type	Null
INVOICE2_CONTRACT_CODE	VARCHAR2(15)	
INVOICE2_SUB_CODE	NUMBER(2)	
INVOICE2_LOAN_CODE	VARCHAR2(10)	
INVOICE2_D	NUMBER(2)	
INVOICE2_M	NUMBER(2)	
INVOICE2_Y	NUMBER(4)	
INVOICE2_AMOUNT	NUMBER(12,3)	
INVOICE2_CURR	NUMBER(2)	
INVOICE2_PERFORM_WORK	NUMBER(12,3)	
INVOICE2_VARIATION_ORDER	NUMBER(12,3)	
INVOICE2_MATERIAL_SITE	NUMBER(12,3)	
INVOICE2_ADVANCES	NUMBER(12,3)	
INVOICE2_DOWN_PAY_PAID	NUMBER(12,3)	
INVOICE2_DEDUCTIONS	NUMBER(12,3)	
INVOICE2_CURRIED_PAYMENTS	NUMBER(12,3)	
INVOICE2_OTHER_DEDUCTION	NUMBER(12,3)	
INVOICE2_FINANCIAL_PART	NUMBER(12,3)	
INVOICE2_LOAN_PART	NUMBER(12,3)	
INVOICE2_FLAG	VARCHAR2(1)	

5.3 Monthly Invoices for Loan Payments Data Entry Form





This form maintains monthly (non-cumulative) invoices and the related distribution of each. Related distribution means that each invoice may be split into sub invoices that may be paid in different currencies and percentages according to loan and contract conditions. Information on invoices is stored in the INVOICE_OUT table, and information on the distribution of invoices on loan currencies is stored in the **DISTRIB_INV_CURR** table. The part of invoice distribution is now under programming development and the table has the following description:

Name	Data Type	Null
INV_CONTRACT	VARCHAR2(15)	
INV_SUB_CONT	NUMBER(2)	
INV_NO	NUMBER(2)	
INV_NO_EXT	VARCHAR2(25)	
INV_LOAN	VARCHAR2(10)	
INV_CURR	NUMBER(2)	
INV_DIST_AMOUNT	NUMBER(12,3)	
CURR_CONV	NUMBER(10,6)	
AMOUNT_CURR	NUMBER(12,3)	
INV_INVOICE_LOAN	VARCHAR2(10)	
INV_INVOICE_CURR	NUMBER(2)	

5.4 Withdrawal from Loans



A withdrawal notice is prepared for each invoice to inform the financing agency of the amount to be paid from that loan. The information is stored in the **WITHDRAWALS** table as follows:

Name	Data Type	Null
WITHDRAW_LOAN_CODE	VARCHAR2(10)	
WITHDRAWAL_D	NUMBER(2)	
WITHDRAWAL_M	NUMBER(2)	
WITHDRAWAL_Y	NUMBER(4)	
WITHDRAW_CONTRACT_CODE	VARCHAR2(15)	
WITHDRAW_SUB_CODE	NUMBER(2)	
WITHDRAWAL_AMOUNT	NUMBER(12,3)	
WITHDRAW_CHAPTER_CODE	NUMBER(2)	
WITHDRAW_CHAPTER_TYPE	VARCHAR2(1)	
WITHDRAW_PROGRAM_CODE	VARCHAR2(1)	
WITHDRAW_PROJECT_CODE	NUMBER(2)	
WITHDRAW_GROUP_CODE	NUMBER(3)	
WITHDRAW_ITEM_CODE	NUMBER(2)	
WITHDRAW_SERIAL_NO	NUMBER(3)	
WITHDRAW_INVOICE_NO	NUMBER(4)	
WITHDRAW_ADVICE_NO	NUMBER(4)	
WITHDRAW_ADVICE_D	NUMBER(2)	
WITHDRAW_ADVICE_M	NUMBER(2)	
WITHDRAW_ADVICE_Y	NUMBER(4)	
WITHDRAW_AIM	VARCHAR2(30)	
WITHDRAWAL_CURR_CODE	NUMBER(2)	
WITHDRAWAL_CURR_PAY	NUMBER(2)	
WITHDRAW_AMOUNT_PAY	NUMBER(12,3)	
WITHDRAW_INV_NO_EXT	VARCHAR2(25)	
WITHDRAW_AMOUNT	NUMBER(12,3)	

Name	Data Type	Null
WITHDRAW_CURR	NUMBER(2)	
WITHDRAW_PERSENT	NUMBER(7,3)	
WITHDRAW_PERSENT_AMOUNT	NUMBER(12,3)	
WITHDRAW_CURR_RATE	NUMBER(8,6)	
WITHDRAW_LOAN_CHARGES	NUMBER(12,3)	

CHAPTER 3 LOAN MAIN FUNCTIONS AND RELATED DATABASE

The computer system is comprised of the following functions amd programs:

Table 3.1 Loan System Functions and Programs

Function Area	Program Name
Loan information	LOAN
Goods and Loan services	GDS_SERV
Project Information	BAS_CNT
Contract Information	CONTRAC
Invoices for loan payments	INVOICE
Queries on invoices and loan payments	INVO_INQ
Monthly invoices for loan payments	INVO_MTH
Withdrawals from loans	WITHDRAW

The table below summarizes the information contained in the loan system.

Table 3.2
Description of Data in the Loan System

Program Name	Basic Table(s)
LOAN	LOAN_MASTER
GDS_SERV	GOODS_SERVICES
BAS_CNT	BASIC_CONTRACT, BASIC_AGENCY
CONTRAC	CONTRACTS, FINANCE_AGENCIES
INVOICE *	INVOICES, INVOICE_OUT
INVO_INQ *	INVOICE_OUT, UPDATED_INVOICES
INVO_MTH	INVOICES, INVOICE_OUT, DISTRIB_INV_CURR
WITHDRAW	WITHDRAWALS, LOAN_MASTER

^{*} These forms are not used by the end user since they are related to cumulative invoices.

Figure 3.1 tracks data flow in the loan information system.

Figure 3.1 Loans System Data Flow

